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cumstance that the inclination of the orbit of *Mars* to that of *Neptune* is double that of the orbit of *Mars* to that of *Uranus.* Otherwise transits will in general be the more frequent, the further the outer planet is away. There has been no transit of *Mars* for *Jupiter* and *Jupiter's* satellites during the last half-century. The last transit occurred August 13, 1785, the next one will take place, I presume, in April 1886.

Though these statements respecting transits across the Sun's disk, as seen from or occasioned by the planet *Mars*, may possess no direct practical interest, they will perhaps facilitate the formation of correct and distinct notions concerning this class of invisible phenomena, and their communication may therefore not be without interest for some readers.

On the Change in the Mean Error of Longitude of Hansen's Lunar Tables since 1876. By W. T. Lynn, B.A.

At page 12 of his last Annual Report to the Board of Visitors, the Astronomer Royal expressed the opinion that the error of longitude of Hansen's Lunar Tables, instead of continuing to increase as it had done for several years previously, was on the whole somewhat smaller in 1878 than it had been a year or two before. I have put this to the test of figures, by computing the mean error from the Greenwich observations made with both the Transit-Circle and Altazimuth in 1878, and comparing it with that from the observations in 1876, as given in my paper in the *Monthly Notices* for last March (page 369). The Astronomer Royal gives me permission to make public the result from the observations for 1878, which are not yet published, and I am thereby enabled to exhibit the following comparison, proving that the mean error of longitude was in fact then decreasing, as it probably is still :—

1. From Observations with the Transit-Circle—

Year.	No. of Observations.	Mean Error of Longitude for the Year.
1876	82	$+9''.72$
1878	90	$+8.23$

2. From Observations with the Altazimuth—

Year.	No. of Observations.	Mean Error of Longitude for the Year.
1876	171	$+9''.31$
1878	161	$+7.48$

The sign + indicates, as usual in the *Greenwich Observations*, that the *Nautical Almanac* (Hansen's) place is too large. The largest mean error in the opposite direction was in the year 1862, which is given in my paper above referred to, and amounts to about $-3''.20$ from the mean of the results with the two instruments. From that time it appears to have been affected

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by a positive change of about one second annually, so as to become practically insensible in 1865–6, and then to increase regularly until it became nearly 10″ in 1876–77.

Mean Areas of Umbræ, Whole Spots, and Faculæ upon the Sun's Disk as measured on Photographs taken at the Royal Observatory, Greenwich, for each Rotation of the Sun from 1873, *July* 11.

(*Communicated by the Astronomer Royal.*)

The Mean Areas have been formed by taking the Means of the Areas for each day of observation throughout each rotation of the Sun, and are expressed in millionths of the Sun's visible hemisphere.

No. of Rotation.	Date of Commencement of each Rotation.		Mean Area. Umbræ.	Whole Spots.	Faculæ.
1	1873	July 11	237	1308	3773
2		Aug. 6	118	683	4539
3		Aug. 31	78	460	4295
4		Sept. 25	153	798	3036
5		Oct. 21	107	668	1719
6		Nov. 15	37	244	1356
7		Dec. 11	80	583	1456
8	1874	Jan. 5	199	1172	3251
9		Jan. 30	51	318	1688
10		Feb. 25	47	426	436
11		Mar. 22	71	532	282
12		Apr. 16	54	488	60
13		May 12	38	291	259
14		June 6	39	436	513
15		July 2	174	1192	1519
16		July 27	206	1341	1963
17		Aug. 21	34	248	1906
18		Sept. 16	127	904	1645
19		Oct. 11	42	227	794
20		Nov. 6	60	437	773
21		Dec. 1	17	138	255
22		Dec. 26	17	99	1197
23	1875	Jan. 21	21	107	1069
24		Feb. 15	120	653	620
25		Mar. 12	56	321	643
26		Apr. 7	81	547	706
27		May 2	22	138	190

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